

## Everything You Need to Know About Cannabidiol

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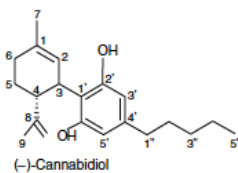
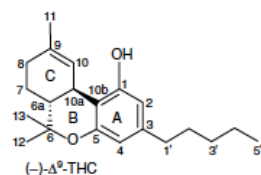
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## Disclosures

- Member of the Scientific Advisory Board of Phytects, Inc.
- Received a research grant from Phytects, Inc.
- Consultant for Beryl Therapeutics, Inc.

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## The Basics

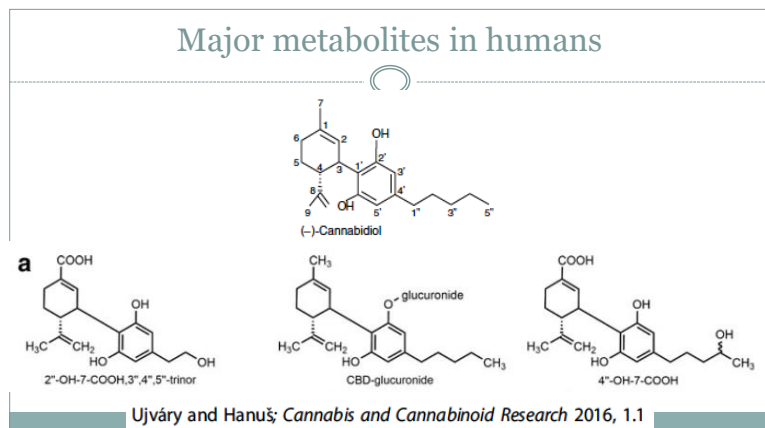


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## Physiochemical and Pharmacokinetic Facts

- CBD is highly lipophilic (log P is 5.8)
- Boiling point: 160-180°C
- Bioavailability: oral: 4-20%; sublingual: 12-35%; inhalation: 45-55%; transdermal?
- Metabolism: Hydroxylation followed by glucuronidation

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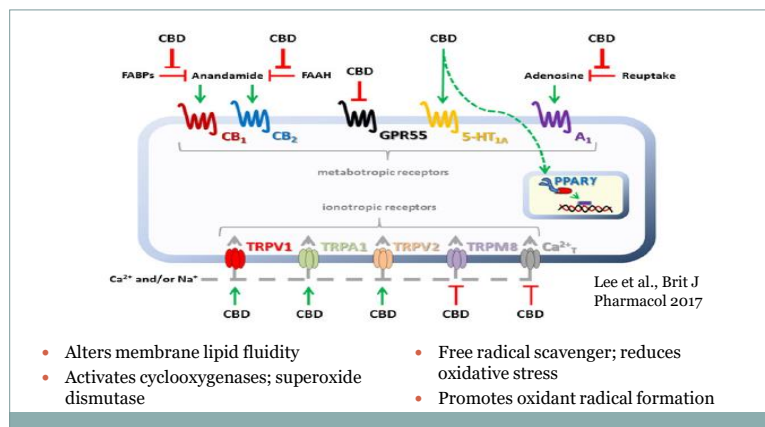


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### Potential Drug Interactions

- CBD is a potent inhibitor of CYP2C19
  - Substrates include omeprazole, diazepam, phenytoin, amitriptyline
- Cannabis smoking induces CYP1A2 (as does tobacco smoking)
- In vitro study suggests that CBD inhibits P-glycoprotein; could influence brain absorption of other drugs

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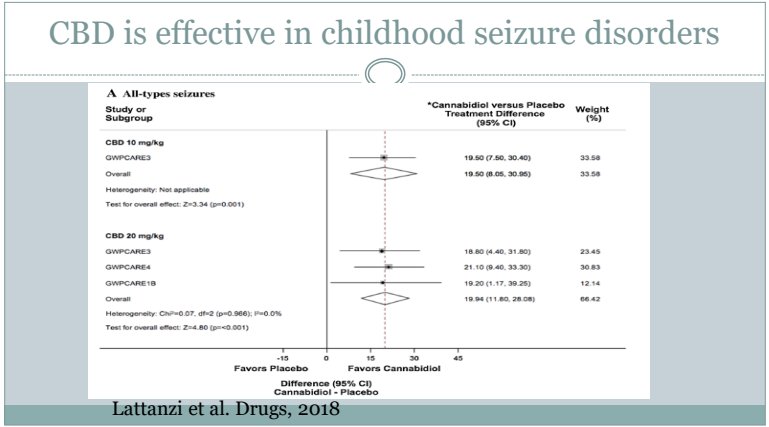


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### Therapeutic Uses (Selected!)

- Seizure disorders in children
- Anxiety
- Sleep
- Psychosis
- Inflammation

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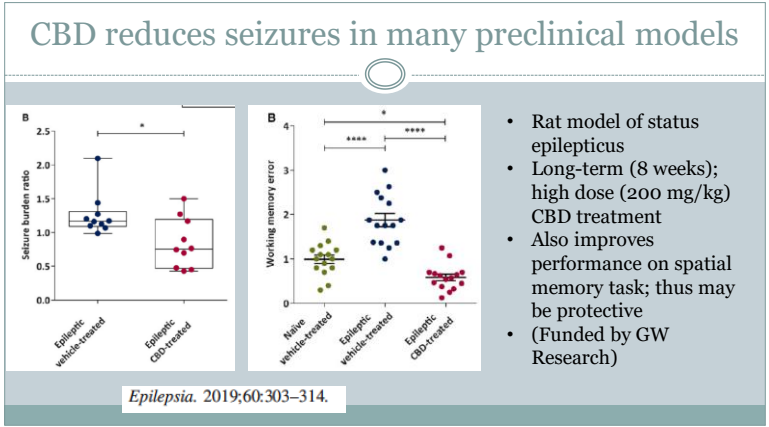
### Adverse Events in Seizure Treatment Studies

**Table 5 Adverse events for adjunctive cannabidiol versus placebo**

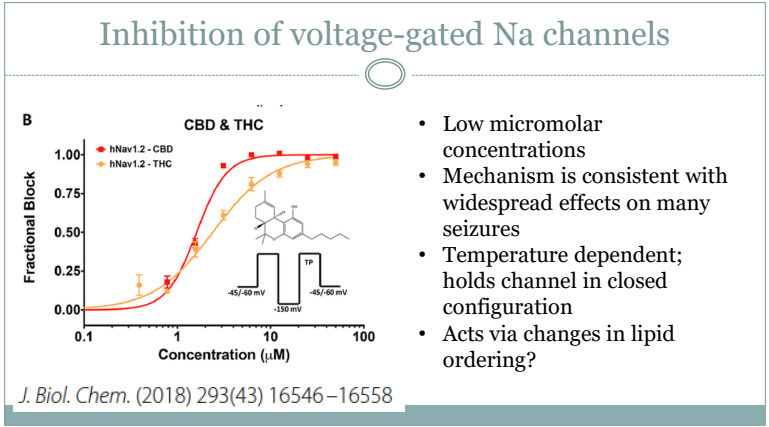
Outcome	Number of studies [Reference]	Number of pooled events/ participants		I <sup>2</sup> (%)	Risk ratio (95% CI)	p value
		CBD	Placebo			
Any AE	4 [23–26]	284/323	164/227	11.5	1.22 (1.11–1.33)	<0.001
Treatment-related AEs	4 [23–26]	180/323	61/227	0.0	2.16 (1.71–2.73)	<0.001
Any SAE	4 [23–26]	60/323	15/227	0.6	2.61 (1.52–4.47)	<0.001
Treatment-related SAEs	4 [23–26]	25/323	1/227	0.0	6.93 (1.92–24.92)	0.003
Somnolence	4 [23–26]	79/323	19/227	23.2	2.75 (1.69–4.48)	<0.001
Decreased appetite	4 [23–26]	65/323	11/227	0.0	3.69 (2.02–6.72)	<0.001
Diarrhea	3 [24–26]	54/296	19/220	0.0	2.25 (1.38–3.68)	0.001
Fatigue	3 [23, 24, 26]	18/174	6/151	74.3	1.45 (0.20–10.57)	0.714
Increased aminotransferases <sup>a</sup>	4 [23–26]	52/323	2/227	0.0	11.88 (3.77–37.44)	<0.001
Upper respiratory infection	3 [24–26]	31/296	22/220	8.8	0.96 (0.56–1.64)	0.875
Pyrexia	4 [23–26]	42/323	24/227	23.1	1.11 (0.69–1.78)	0.681
Vomiting	4 [23–26]	35/323	26/227	33.2	0.92 (0.56–1.51)	0.729
Sedation	2 [23, 26]	11/113	1/92	0.0	4.88 (0.92–25.93)	0.063

Aminotransferase issue was primarily seen in patients also taking valproate

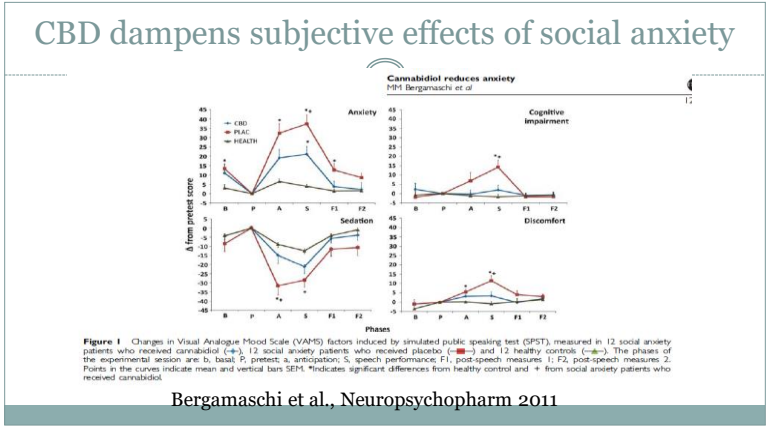
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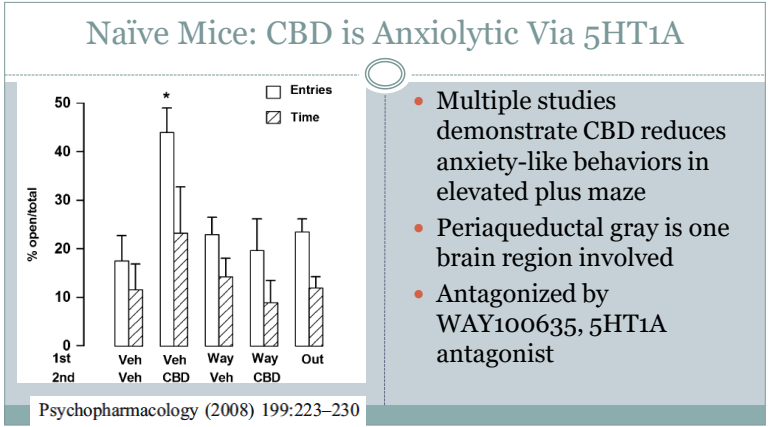
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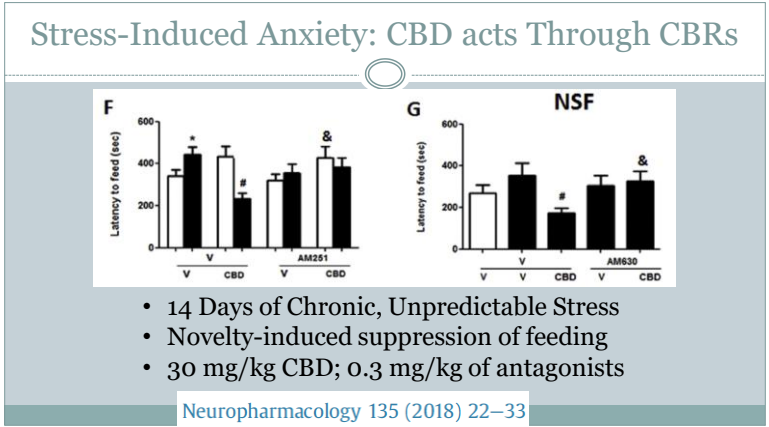
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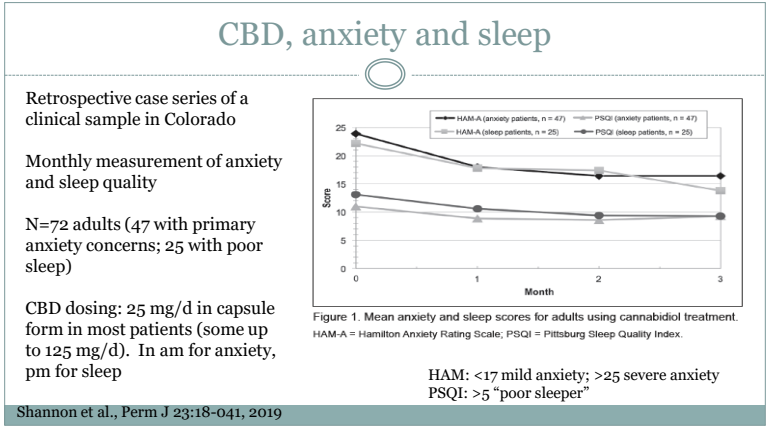
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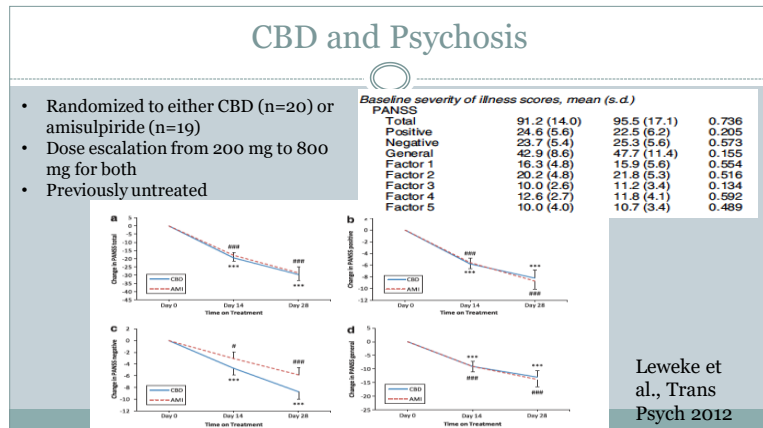
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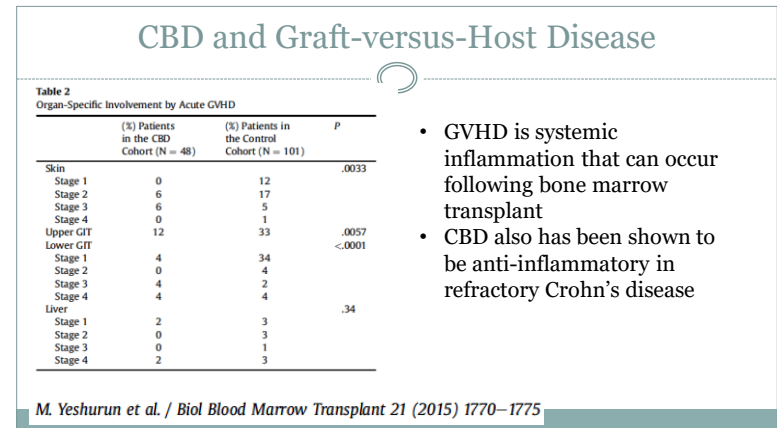
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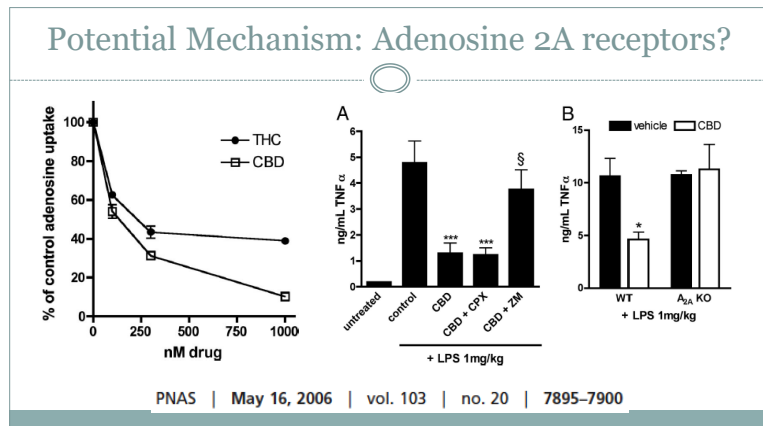
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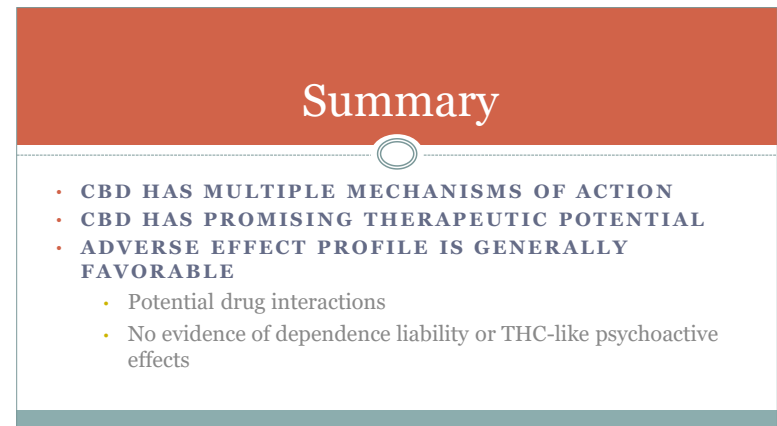
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